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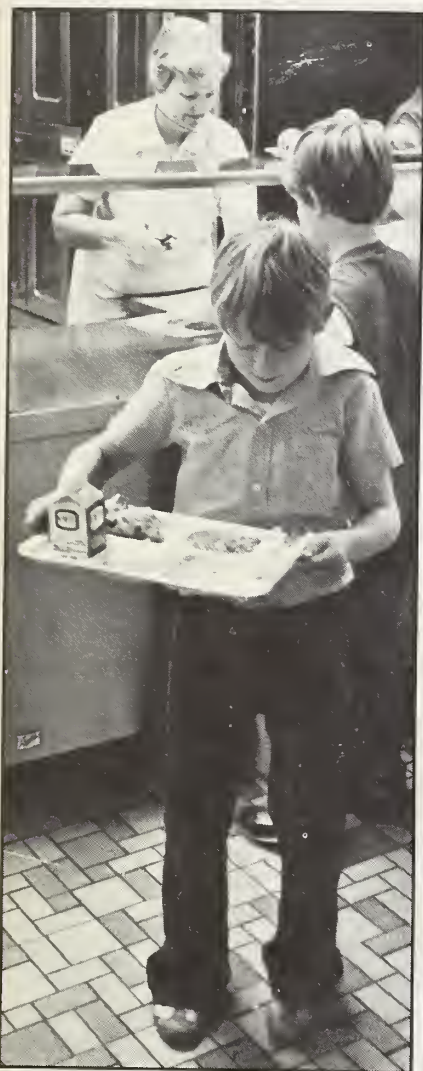
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Food ~~PRIMER~~ & Nutrition

Stacks

April 1982 Volume 12 Number 2



Technical Assistance for Schools

If you work with school food service, you know it's not easy to run a good, financially sound operation. These days, with increasing costs and shrinking budgets, it seems to get tougher all the time.

Before you give up or plan more price increases, there may be some options you've not yet tried. We've asked the directors of some successful school food service operations to share their ideas for cutting costs and improving management.

In addition to their suggestions — which range from buying and freezing locally grown produce to using computers to help with recordkeeping and meal planning — we've also got energy-saving tips for cafeteria managers and information on new services available from FNIC, USDA's Food and Nutrition Information Center in Beltsville, Maryland.

Cutting Costs Without Sacrificing Quality **FNIC Offers Variety of Services**

Try Buying Fresh Produce — Cooperatively **Kilowatt-Counting Cooks Save Energy**

Getting More Out of USDA Foods: Processing Contracts Can Help **Computers Make Lunch More Manageable**

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Cutting Costs Without Sacrificing Quality

Faced with the choice of raising lunch prices or looking for other ways to balance their budgets, most school food service directors would welcome cost-cutting alternatives. Higher prices often mean lower participation, making it even more difficult to keep a school lunch program in the black. Higher lunch prices may also put lunch financially out of reach for some children.

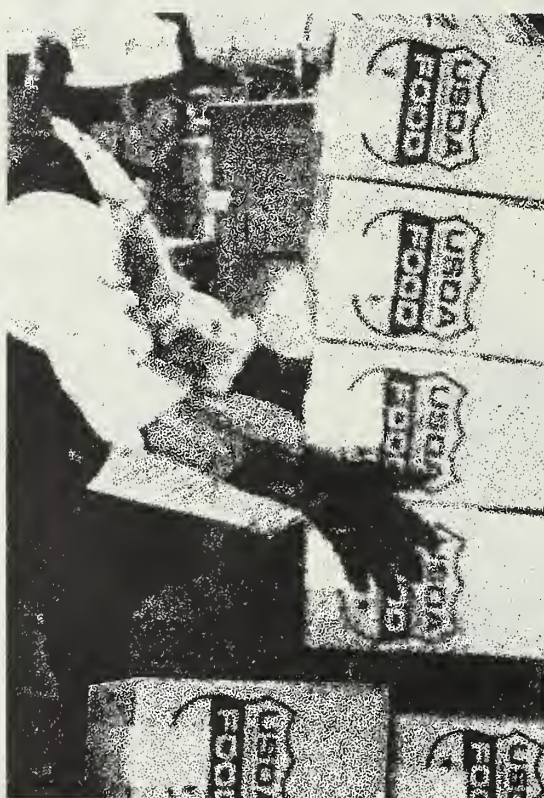
How can a school cut costs without sacrificing quality? Here are some suggestions from school food service people, the food industry, and USDA. The food service managers we've talked to come from schools of different sizes and with different resources. Their schools are not necessarily large or fitted with the latest equipment. But they've all used creativity and cooperation in finding ways to provide nourishing meals to children.

USDA foods go a long way...

Some schools do not make full use of the USDA-donated foods they get through the National School Lunch Program. But even small changes—like substituting cookies made with USDA peanut butter for more expensive commercially prepared baked items—can make a difference. Using protein-rich donated foods like cheese, chicken, and pork in entrees can add up to big savings.

Schools order and receive USDA foods through a state distributing agency. In many instances, the most successful food services are the ones whose distributing agencies take an active part in making commodities useful to schools.

As a food service director, you can do your part by showing interest in your state's operation and by making your needs known. A good channel for this is membership in, or contact with members of, the state food distribution advisory council.



USDA recommends that a state advisory council include members representing a broad range of interests, for example: food service representatives from large urban and small rural schools and residential child care facilities; a member of a parent-teacher organization; a student; a nutritionist; a teacher; and a school administrator. Representatives from the state education agency and the state distributing agency are non-voting members.

An advisory council's main function is to provide the state agency with information on food preferences, suggest new products, and recommend changes in packaging, shipping schedules, and food specifications.

Working with the council, you can find out if there are ways your state's distributing system can be improved. How closely does your state distributing agency work with schools? Does your state agency notify you promptly when foods are available and when they arrive? Does the staff work with you on forms for ordering foods?

Does the state delivery system serve the smaller recipient agencies, like small schools and day care centers, as well as the large? Is it possible for small agencies to obtain their share of bulk-packed foods?

Do schools and other agencies have flexibility in choosing donated foods? Is it easy for agencies to store donated and purchased foods together?

By its nature, the commodity system has some built-in problems. Since some of the food is purchased to support prices and remove surpluses, crop and market conditions sometimes make menu planning and scheduling difficult. USDA has recently improved its notification system, and now offers more options on how foods may be ordered. But the next link in the chain—the state distributing agency—must be equally flexible.

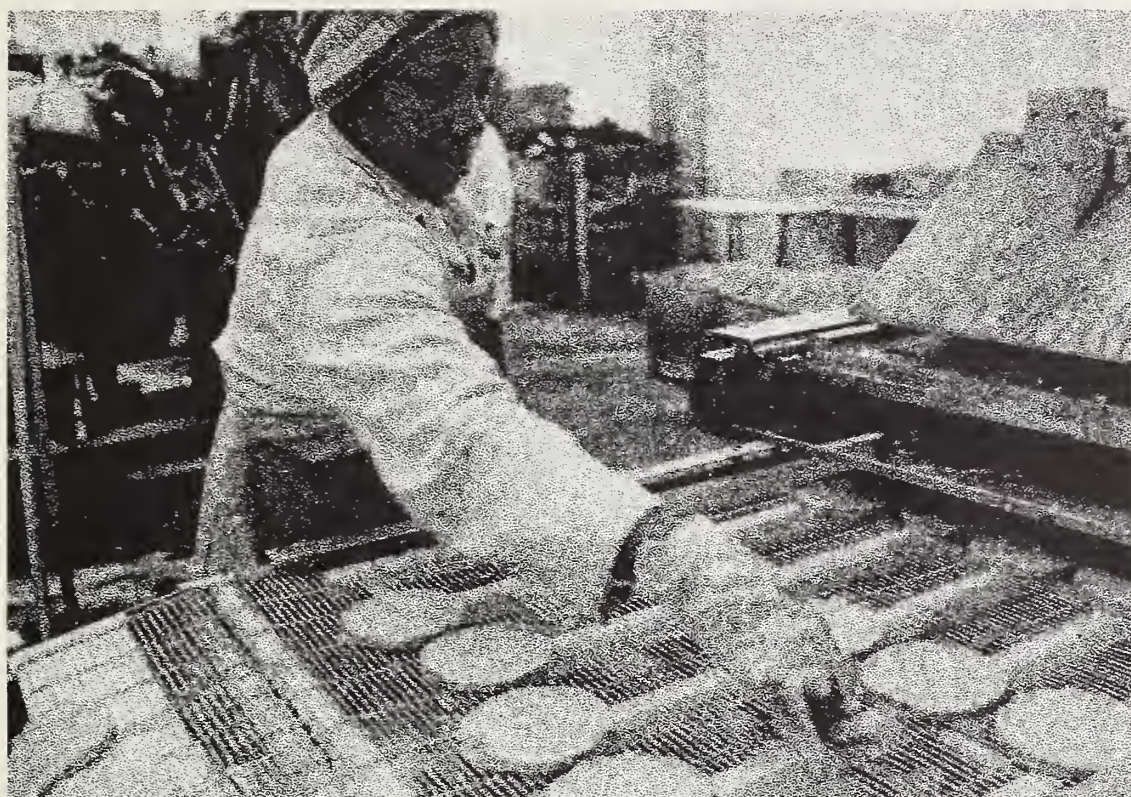
In working on your own program, study what food services elsewhere are doing with USDA foods. The Food and Nutrition Information Center (see page 11) is a good source of information materials for schools, child care centers, and other agencies operating food programs.

Processing contracts stretch food dollars, add variety

Processing contracts are one of the largest single cost-saving measures for most school systems. Using processing contracts, schools can take basic USDA foods like flour, tomato paste, and cheese, contract with a commercial food processor who agrees to meet certain specifications, and get a final product—like pizza—at a discount.

Schools have used processing contracts to get everything from bread to turkey roll, spaghetti sauce, toasted cheese sandwiches—you name it. In some states, the state distributing agency arranges for all processing of USDA foods. In others, school districts may enter into processing agreements on their own, with approval from and supervision by the state agency.

Food service directors who use processing contracts say there are several big advantages. For exam-



ple, they allow schools to use commodities that come in large sizes. They enable schools to use more of a particular food than they would otherwise accept. They also make it easier for schools to take full advantage of "bonus" commodities—USDA foods that do not count against a school's dollar entitlement.

USDA now distributes about 57 foods on an entitlement basis, including such items as ground beef, pork, chicken, dried beans, vegetables, and juices. This year schools are entitled to 11 cents worth of these foods for each lunch they serve. Bonus items currently include butter, cheddar cheese, process cheese, and nonfat dry milk. USDA provides states with as much of these bonus foods as they can use without waste.

Dorothy Pannell, school food service director in Fairfax County, Virginia, says she was able to use \$2.2 million worth of bonus foods last year, over and above her entitlement.

Admittedly, her system is large (168 sites, 925 employees). And, her state distributing agency is very cooperative and supportive. The state official in charge of processing contracts, she says, is an extremely conscientious person, a perfectionist. "In fact," she says, "he's a hard

person to clear contracts with because he is so exact. But he does a good job—he is always willing and just fantastic to work with. So we go through the required paperwork and don't think of it as a burden."

Each regional office of USDA's Food and Nutrition Service has a specialist in processing contracts who can assist state agencies with their questions. FNS is also assembling a handbook designed to provide guidance to state distributing agencies in managing contracts for their schools.

FNS has recently revised its food distribution regulations, giving states greater freedom in approving contracts. The regulations also strengthen controls on substitution of ingredients, increase the accountability of processors, and provide sanctions against processors who willfully misuse donated foods.

Some tips for getting the most out of processing contracts:

If the processor will be substituting any purchased foods for donated foods, look carefully at the processor's purchase specifications. Compare the processor's specifications for the substituted item with USDA's specifications for the same

donated food, and make sure the processor's ingredient is of at least equal quality.

Also, when evaluating different processors, compare the amount of donated ingredients in their respective products, taking into account any differences in production loss factors and conversion rates.

Join with other institutions and school systems and go into more efficient contracts. Statewide agreements are even better. If it's practical, ask your state distributing agency to arrange for ingredients to be sent directly to the processor from the Department of Agriculture supplier.

Find more ways to use bonus commodities. Order as much of them as you can use in a reasonable amount of time without deterioration, excess storage costs, or waste.

Invite processors to recommend new products you can use, and look around you for inspiration. Virginia's Fairfax County schools will be serving two new turkey products soon, similar to the new McDonald's Chicken McNuggets: a turkey nugget and a larger batter-fried breast portion called prime turkey filet. Food manufacturers might give you further discounts on contract-processed or other foods if you use their logo or product name.

If your state officials have not been very active in processing contracts, encourage them with success stories from other areas. If a distributing agency is leery of the paperwork involved, point out that recent changes have decreased it.

Help is available from many quarters. For example, the National Association of State Agencies for Food Distribution has a prototype agreement that will satisfy USDA's minimum regulatory requirements. Most processors are eager to enter into an agreement to process USDA foods. All they must do is discount their product by the value of the donated ingredient (USDA's cost plus transportation) or otherwise give credit for the value of the donated ingredient. The cost is the lowest possible and the quality meets and often exceeds that which consumers find in their grocery stores.

*You may find savings
in the way you serve...*

You can cooperate with other schools in many ways besides joint processing contracts. You can buy, ship, and store together. You can cook for each other or furnish items that one of you is better equipped to produce. You may also find ways to provide meals to other agencies, such as day care centers, residential institutions, meals on wheels programs, nursing homes, and prisons.

In your own serving line, try serving alternates that are easy to assemble, like salads or sandwiches. Salad leftovers can become the next day's soup. Substitute less costly ingredients without compromising quality. For example, compare prices of ground pork and beef, turkey and chicken, romaine and iceberg lettuce.

Serve desserts that meet a lunch requirement. One Illinois manager began serving fresh fruit for lunch and found that students take fewer of the baked desserts when they appear. Or keep baked desserts and offer them, and other fancy or extra foods, a la carte. Join the fast-food competition with similar, nutritious items. If the students will spend that money anyway, why not with you?

Encourage students to sell your items at fund raisers—at a slight profit to you—and put the money back into your lunch service. Charge adults in the line full cost. Consider disposables versus reusables—either one might save you money depending on your equipment, labor requirements, and other variables. Look for backtracking, cross-travel, and confusion in the way foods are stored and prepared. These waste time and add substantially to costs. Would it help to rearrange some of your equipment?



Savings in the way you buy...

Jim Mixon, a food distribution consultant with many years of experience with both government and private industry, offers the following guidelines for buying:

Do "bottom-line" contract buying rather than "line-item" buying. That is, solicit bids for an entire assortment of goods rather than for each individual item. This will increase interest from and competition among suppliers, and decrease your paperwork. You can divide your supplies into three separate bottom lines: **1.** paper products (many firms handle these alone); **2.** perishable items (their fluctuating prices might make it worthwhile to buy these on a weekly basis); and **3.** the remaining bulk products. For the items you buy often, call at least three suppliers.

Specify that deliveries be made on a weekly basis, or less frequently. Bids for all but the most perishable items can be let quarterly. The least expensive schedule to buy many things on, however, is by the school year. Suppliers can always petition for a price escalation with proof of hardship. Reasonable escalations should be granted.

Look for opportunities for cooperative buying. Cooperative buying helps small schools reach the buying power of large ones. It assures them, particularly if they are in a remote area, of competition among suppliers. It reduces paperwork and the cost of quality control. Both individual schools and buying groups can gain additional leverage by combining a contract for buying commercial foods with one for warehousing and delivering donated foods.

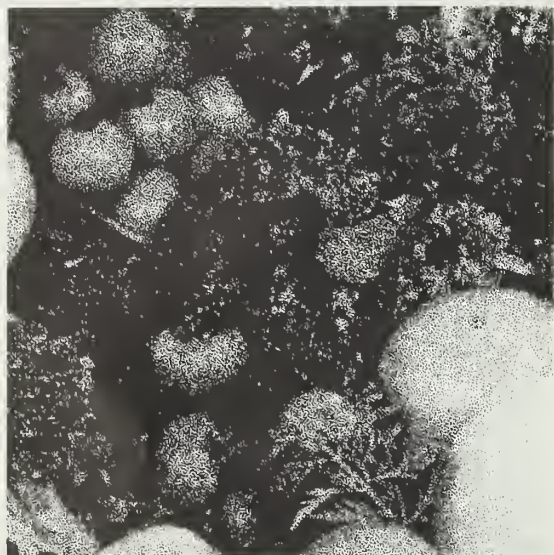


In Montana, schools are relatively small and the distance between them is great. H. Brisbin Skiles, manager of the food service division of the state's Office of Public Instruction, has offered to act as a procurement agent for schools that want to pool their power to buy commodities. The first buy, last December, was for \$147,000 and netted the schools a savings of 20 to 30 percent.

Out of 256 schools and residential child care institutions invited to take part, 57 participated. More will probably join next time in late April. Skiles' only proviso was that schools send him a purchase order, listing the desired items and quantities. He then bid the items out on an all-or-none basis, specifying delivery direct to the schools and payment by the schools within 30 days. He requested samples with the bids, and his staff evaluated these in an all-day taste-testing session. The bids were awarded on the results.

Buying Tips

- ✓ Know what you want well in advance—plan menus at least 30 days ahead. Keep your storage space in mind.
- ✓ Fit the quality to the need. Irregularly cut fruits and vegetables will often serve as well as top grade.
- ✓ Encourage competition among vendors. Shop around as much as possible. Avoid individual sales appointments.
- ✓ Use only the services a particular vendor can provide most cheaply. Go elsewhere for the others.
- ✓ Buy foods in season. Watch for foods that processors or suppliers might have a surplus of, and foods they might want to clear from their inventory at a discount before the new season's supply arrives.
- ✓ Especially watch for good buys on foods you use most often. Savings here will be the most significant.
- ✓ Pay your bills promptly.
- ✓ Build assurances into negotiations with processors, suppliers, and transporters that products will arrive in usable condition.
- ✓ Cut transportation and distribution costs through cooperative buying and bottom-line contract buying. These costs are rising faster than either food or labor costs.
- ✓ Look for unnecessary costs in extra services. Distributors and sales people cannot afford to make small deliveries or frequent sales calls, replace small items, or do other favors without passing costs along to you. You pay for everything you get.
- ✓ Be very explicit in your contracts. Specify not only the size of the order, but when and where it is to be delivered. (Do you want the contractor to leave it at the loading dock or put it in the freezer?) Indicate whether you can accept delivery at only certain hours, and within how many days you will pay your bill. It's helpful to assume that every ambiguous instruction will be interpreted in the most expensive way.
- ✓ Make sure you actually get the quantity and quality you pay for. Always check delivered items against your purchase order and the vendor's invoice.
Buy directly from farmers.



Worth County, Georgia, is farming country. Peggy Harris, county director of school food services, decided to try freezing local produce last year and saved at least a penny a serving on the foods she froze. That adds up to considerable savings over a school year, and there were side benefits as well.

Harris planned to try three items the first time around: corn on the cob, broccoli, and peaches. All are easy to freeze but expensive to buy processed. The corn and peaches would come from local farmers, and the broccoli from nearby Atapulgus research station, which agreed to sell Harris its crop. Both the frozen peaches and the broccoli would meet Georgia's requirement that school lunches contain a source of vitamin A.

Worth County has six schools, one of which is a satellite. Its five kitchens have about 50 employees

altogether. Last summer, a quarter of the work force—15 to 20 employees—found themselves with some summer work as they processed over 37,000 servings of corn and peaches.

Unfortunately, the broccoli became available too early, while school was still in session, and the staff could not be spared to freeze it.

Using existing equipment, they placed the peaches and corn on sheets in the freezer (the peaches in a light sugar syrup with potato whitener to keep them from changing color). When the fruit and vegetables were frozen, they transferred them to plastic-lined bags in 30-pound lots of peaches and 50 servings of corn. Total outlay for supplies: \$99 for the bags and new vegetable brushes. The result: products they feel are superior to commercial ones (the kids like them, too) and savings of over a penny a serving including labor.

Summer employment is a major benefit. Many on the staff are single parents or otherwise without helpmates and must find other work during the vacation. When they do, they sometimes don't come back. This summer, Harris hopes to involve more of her kitchen staff, try broccoli again, and add more produce—tomatoes, for example, which are also locally abundant and easy to freeze.

Eventually she would like to involve students, perhaps in the high school vocational departments, in growing some of the foods. She will write an article this spring soliciting farmers who would like to sell her their crops. Publicity on her experiment, though modest, has already attracted requests for advice from a neighboring county.

Savings in the way you manage...

If your system or program is especially small, it may pay to share a food service manager with other schools or school districts. Some schools also share equipment and surpluses as well as expertise.

In every aspect of your program, try to cut down on the time staff, equipment, and supplies stand idle. If your state charges storage and handling fees for commodities, think of ways to reduce the amount of time foods are warehoused. Make sure your state has an efficient system for notifying schools and other sites that a commodity has arrived. Keep a careful inventory and note whether you should decrease or increase stock according to its flow.



If your school district owns or uses a computer, chances are it can help with inventory control, menu planning and budgeting. Three projects using computers in school food service are described on page 16.

Workflow should be smooth, without employees working at cross-purposes. Figure out your employee hour-per-tray rate. Some systems are

doing well if they produce 18 trays per hour, while others strive for 24.

Whatever you aim for, be sure the standards are clear. Investigate whether, over the long run, it would benefit you to hire less staff for longer hours—the increased stability and efficiency might offset the higher cost of fringe benefits for full-time employees. Along the same

lines, are there any ways you can put staff to work over the summer?

Finally, use common-sense, time-tested management techniques. The U.S. Office of Personnel Management studied 10 effective organizations (as rated by both management and employees) and distilled from them the following guidelines and observations.

Authority and responsibility

Delegate authority and responsibility to the lowest possible level. The worker performing the actual job has the most knowledge about the job.

Get the best people you can find, agree on objectives, then turn them loose.

Have confidence in your people, and the courage to stand back and let them make mistakes.

Decisionmaking

Give people a chance, and they will figure out ways to do a thing better.

If you dictate to people, they will lose their initiative, and will become accustomed to waiting to be told what to do.

Participation

Allow subordinates to be and feel a part of things.

Give people a job to do, but don't bury them with details.

Encourage questions.

Keep people informed.

Learn to communicate, and especially to listen.

Remember, ultimately you have to get the work done through people.

Integrity

Trust your own people.

Treat them with respect and dignity.

Be honest with employees.

Demonstrate a sense of awareness and concern for others.

Demonstrate commitment on the part of management to the highest ethical and moral standards.

Be consistent, and set a good example.

Objectives

Set realistic objectives and make sure everyone understands them.

Make employees feel their organization has a mission, and that they are helping to accomplish it.

Set individual goals high but make them attainable.

Challenge and enthusiasm

Operate with a lean staff. People need to be challenged with plenty of work.

Offer new challenges and experiences whenever possible.

Insure that jobs are as interesting as possible within the limits of the task.

Be enthusiastic and communicate that enthusiasm.

Employee development

Make a commitment to train and develop people.

Help people recognize their own capabilities.

Promote from within whenever possible.

Performance

Be firm with poor performers.

Raise poor performance issues immediately. They will only be more difficult to bring up the longer you wait.

Don't beat around the bush—be direct.

Don't concentrate your efforts on the 8 percent of employees who are poor performers. This leaves too little time for realizing the potential of the other 92 percent.

Atmosphere

Keep things informal and open, and be accessible.

Don't let dress codes and formality get in the way.

Have fun.

article by Christopher Kocsis

Try Buying Fresh Produce — Cooperatively

Although fresh fruits and vegetables account for less than 10 percent of the food purchased by schools, they are the single most difficult category of foods for schools to buy. Fresh produce is highly seasonal with rapidly changing supplies and an extremely volatile pricing structure. Prices change significantly on a daily basis—even hourly.

Aside from rapidly changing prices, another problem in buying fresh fruits and vegetables is lack of consistency in quality and condition. It's difficult to pack uniform quality produce, and even the slightest difference in the marketing environment can have a significant impact on condition. Exposing leafy vegetables such as lettuce to differing temperatures and humidity will create vast differences in crispness and other factors affecting the value of the product.

It requires an exceptional degree of expertise and effort to purchase fresh fruits and vegetables effectively. It also requires special equipment and know-how to properly handle and distribute fresh produce.

Many schools end up paying high prices for produce of poor or unpredictable quality. Buying in wholesale units can result in considerable savings. However, because fresh produce has a limited storage life, this is not a viable option for smaller schools.

Sharing cost of an expert

A solution to these problems is for schools to band together in using the services of an expert buyer and a contract distributor. Commercial establishments, such as restau-

rants and fast-food chains, do this often.

In many instances, the purchases of a single school district or institution are insufficient to support the cost of an in-house expert or experts. But if several districts combine their purchases, the savings can usually more than pay for the service. Generally, if the volume is sufficiently large, the cost of an effective buyer should not be more than about 3 percent of the cost of the delivered product.

Besides being responsible for the actual sight purchasing of products, a buyer's duties can include acting as a resource person for menu planning, and helping to train food service personnel in receiving, handling, and using fresh fruits and vegetables.

A contract distributor can: get from member schools the requisition orders the buyer will use in purchasing; act as another check on the quality and condition of the product to be distributed; devise a practical delivery schedule that meets members' needs; bill each member on a per-package basis; and help the buyer train personnel in receiving, handling, and using products.

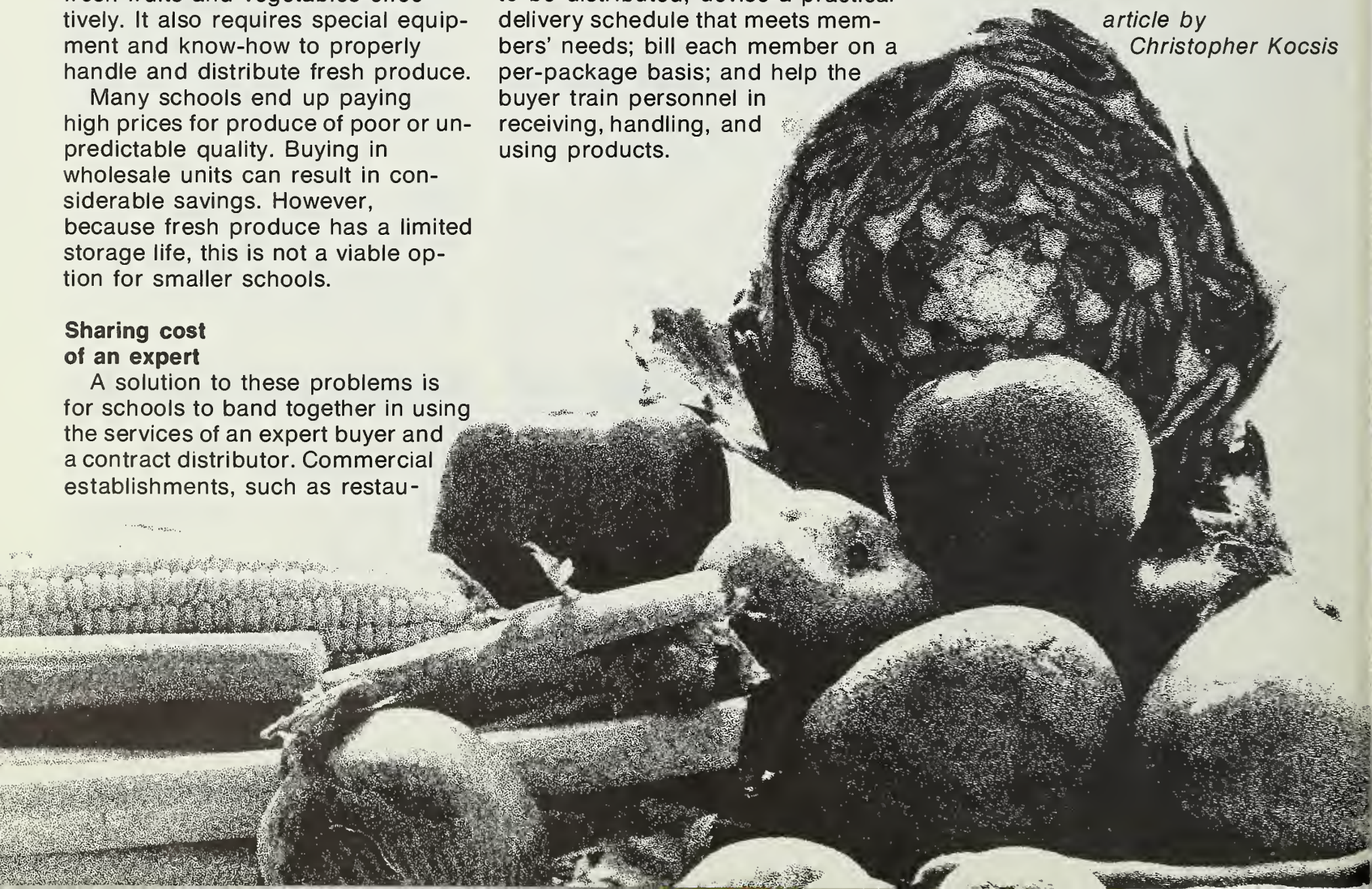
Make contracts 1-year or more

Any cooperative agreement should delineate the responsibilities of both the buyer and the distributor. Generally, contracts should be for at least one school year with a 60-day option for either party to abort the contract for cause. If the school board or institution can approve multiple-year contracts, it is advantageous to develop a 2- or 3-year contract, as long as it contains a circuit-breaker clause.

The advantages of cooperatively using a buyer and a distributor include:

- lower prices and higher quality;
- maximum use of volume discounts;
- less work for the food service staff;
- fewer logistical problems and less waste;
- high responsiveness to changing needs of members and maximum flexibility for members to buy what they want to use.

article by
Christopher Kocsis



Getting More Out of USDA Foods: Processing Contracts Can Help

Each year, schools, institutions, day care centers, and nutrition programs for the elderly throughout the country receive millions of dollars' worth of donated foods. The U.S. Department of Agriculture (USDA) acquires the food through price support, surplus removal, and other legislation and extends it to these recipient agencies through the Food Distribution Program of the Food and Nutrition Service (FNS).

Rising costs, inadequate facilities, and limited personnel make it difficult for many recipient agencies to benefit efficiently from some of the donated foods they receive. Some donated foods are not easy to use in their original form. And, at certain times during the year, more of a particular item may be available than a recipient agency can use at that time.

Because of these problems, more and more recipient agencies are turning to the food processing industry—with its modern, efficient production facilities and techniques—to convert such foods into more convenient and usable forms through food processing contracts.

While helping the various recipient agencies economize on food costs, processing contracts also offer processors the opportunity to build their sales volume. These contracts, therefore, benefit both the processors and the users—and all the people who are served nutritious meals through eligible program sites. Here's how processing contracts work:

What is a processing contract?

A processing contract is a written agreement with a commercial food processor to provide a service or a product made partially or wholly from foods donated by the Department of Agriculture. A contract can be for: using donated foods to make a final product; preparing preplated meals; or repackaging or otherwise converting donated foods into more convenient forms.

Contracts can either be negotiated directly with a processor or awarded through bids submitted against specifications. No matter which procedure is used, all processing contracts must be approved by the state distributing agency.

Processing contracts help recipient agencies make the most efficient use of donated foods. They also help them provide more varied and higher quality meals, reduce labor and waste, and stabilize costs through portion control. In addition, they help processors build their sales volume.

Samples of foods processed under contracts

A large variety of products have been processed from donated foods. Among them:

- bread and other baked products from flour, nonfat dry milk, shortening, butter, rolled wheat and oats, raisins, and peanut butter and granules;
- mozzarella cheese from nonfat dry milk;
- pizza from flour, cheese, tomato paste, and oil;
- ice cream and frozen yogurt from nonfat dry milk;
- mayonnaise and salad dressing from soybean oil;
- precooked, portion-controlled meatballs, beef patties, meat loaves, and frankfurters from ground beef or ground pork, or both;
- bread and cake bases from flour and nonfat dry milk.

Who can enter into a processing contract?

In some states, the state distributing agency negotiates all agreements with processors. In

others, the state distributing agency permits subdistributing agencies as well as recipient agencies to negotiate agreements with processors on their own. However, all contracts for processed products must be approved by the state distributing agency.

A processor interested in negotiating a contract must submit yield and price data to the distributing agency for evaluation. The data must show the exact quantity of donated ingredient contained in each unit of end product, and the net price per unit must reflect a discount equal to the full value of the donated ingredient used.

All processors are required to submit monthly performance reports to the state distributing agency.

Substitution of ingredients

Processors may sometimes substitute commercial for donated ingredients. For example, baking companies may substitute their own flour for donated flour, or mix the two. However, only certain ingredients may be substituted, and then only with ones of equal or higher quality. Meat or poultry items may never be substituted.

USDA's Food and Nutrition Service (FNS) currently allows substitution of butter, cheese, corn grits, corn meal, flour, macaroni, nonfat dry milk, peanut butter and granules, roasted peanuts, rice, rolled oats, rolled wheat, shortening, soybean oil, and spaghetti. State distributing agencies may allow other foods to be substituted.

How food reaches the processor

If the volume is sufficiently large, donated food can be shipped directly from USDA to the commercial processor. With smaller volumes, USDA ships the food to state warehouses. From there it is transferred to the processor.

What foods are available...

The kinds and quantities of USDA-donated foods available vary with market conditions. FNS regional offices can supply up-to-date information on the availability of these donated foods:

Applesauce, canned	Corn, frozen	Peaches, canned	Poultry, canned, boned
Apples, fresh	Corn, grits	Peanut butter	Raisins
Apple juice, canned	Corn meal	Peanut granules	Rice, brown
Apricots, canned	Cranberries, canned, jellied	Peanuts, roasted	Rice, milled
Beans, dry	Flour, all purpose	Pears, canned	Shortening, vegetable
Beans, vegetarian	Flour, baker's hard wheat	Peas, canned	Soybean oil
Beef, canned	Flour, baker's soft wheat	Peas, frozen	Spaghetti
Beef, frozen ground	Flour, durum	Peas, dry split	Sweet potatoes, canned
Bulgar	Fruit, mixed, canned	Pineapple, canned	Tomatoes, canned
Butter	Green beans, canned	Plums, canned	Tomato catsup
Cheese, cheddar	Green beans, frozen	Pork, canned	Tomato juice, canned
Cheese, mozzarella	Macaroni	Pork, frozen ground	Tomato paste, canned
Cheese, process	Milk, nonfat dry	Potatoes, frozen fries	Turkeys, whole, frozen
Chicken, cooked, breaded	Oats, rolled	Potatoes, frozen rounds	Turkey rolls
Chicken, frozen, cut up	Orange juice, canned	Potatoes, instant mashed	Vegetables, mixed, frozen
Corn, canned	Orange juice, frozen	Potatoes, canned	Wheat, rolled

Where to get help...

Each FNS regional office has a specialist in processing contracts who can assist you with your questions. The regional office can supply sample contracts and official instructions for agencies and processors to follow.

Ask for the federal regulations for the Food Distribution Program, 7 CFR Part 250. The regional office can also furnish specifications on the donated foods as purchased by USDA.

Mid-Atlantic Regional Office

Food and Nutrition Service
U.S. Department of Agriculture
One Vahlsing Center
Robbinsville, N.J. 08691
Telephone: (609) 259-3041
*Delaware, Maryland, New Jersey,
Pennsylvania, Washington, D.C., Virginia, West
Virginia, Puerto Rico, Virgin Islands*

Midwest Regional Office

Food and Nutrition Service
U.S. Department of Agriculture
50 East Washington Street
Chicago Ill. 60602
Telephone: (312) 353-6664
*Illinois, Indiana, Michigan, Minnesota, Ohio,
Wisconsin*

Mountain Plains Regional Office

Food and Nutrition Service
U.S. Department of Agriculture
2420 W. 26th Avenue, Suite 415-D
Denver, Colo. 80211
Telephone: (303) 837-5071
*Colorado, Iowa, Kansas, Missouri, Montana,
Nebraska, North Dakota, South Dakota,
Utah, Wyoming*

Northeast Regional Office

Food and Nutrition Service
U.S. Department of Agriculture
33 North Avenue
Burlington, Mass. 01803
Telephone: (617) 272-0885
*Connecticut, Maine, Massachusetts, New
Hampshire, New York, Rhode Island, Vermont*

Southeast Regional Office

Food and Nutrition Service
U.S. Department of Agriculture
1100 Spring Street, N.W.
Atlanta, Ga. 30367
Telephone: (404) 881-4911
*Alabama, Florida, Georgia, Kentucky, Mis-
sissippi, North Carolina, South Carolina,
Tennessee*

Southwest Regional Office

Food and Nutrition Service
U.S. Department of Agriculture
1100 Commerce Street
Dallas, Tex. 75242
Telephone: (214) 749-2877
*Arkansas, Louisiana, New Mexico, Oklahoma,
Texas*

Western Regional Office

Food and Nutrition Service
U.S. Department of Agriculture
550 Kearny Street
San Francisco, Calif. 94108
Telephone: (415) 556-7393
*Alaska, American Samoa, Arizona, California,
Guam, Hawaii, Idaho, Nevada, Oregon,
Trust Territories, Washington*

FNIC Offers Variety of Services

Thanks to financial support from the Food and Nutrition Service, the lending service of the Food and Nutrition Information Center (FNIC) is once again available to teachers, school food service personnel, and child care center staffs. In addition, for the first time ever, the center is serving staff working with the Special Supplemental Food Program for Women, Infants and Children (WIC) and the Commodity Supplemental Food Program (CSFP).

FNIC is a unique resource center, a national repository of films, books, journal articles—all kinds of print and audio-visual materials on nutrition education, food service management, human nutrition and consumer education. The center provides lending, photocopying, reference and referral services to users.

"The center has a comprehensive collection of nutrition education materials, particularly audio-visuals, and an extremely strong collection of food service management materials—the best anywhere," said Robyn Frank, director of FNIC.

Through the computerized bibliographic data file, AGRICOLA, shared with the National Agricultural Library, FNIC also provides access to 25,000 citations on nutrition education and research, as well as on all aspects of volume feeding targeted to school food service personnel.

Originally set up in 1971

Located at the National Agricultural Library Building in Beltsville, Maryland, the center was set up in 1971 by FNS in order to provide needed training to food service people working with the National School Lunch Program. Today any person working with FNS programs at the local or state level can take advantage of the center's resources. A food service director can borrow films on management or sanitation to train new workers. A teacher can order a slide show on diet and health. A school district dietitian can request the latest nutrient data.

"Our collection started with teaching guides to train food service workers on the job, then ex-

panded to include materials needed by teachers involved in nutrition education," said Frank.

In 1979, a change resulting from legislation placed FNIC under the National Agricultural Library. The demand for the center's materials had increased by 66 percent from 1978 to 1979, and, with no additional funding to handle the increased demand, the center was forced to limit lending services. A borrowing source that had been available to food service and other school personnel for more than 6 years was suddenly closed to them.

"When food service people were cut off from using FNIC, we received stacks of letters protesting the change," Frank said.

Prior to 1979 more than half the center's users were people working with FNS programs, mainly at the local level, according to Frank. "We used to lend up to 12,000 items a year. We estimated that these materials reached from 1 to 1.5 million people," she said. She explained that FNIC makes a tremendous impact because those who use the center are nutrition intermediaries—professional nutritionists, teachers and trainers who use the materials to communicate with others.

Now available to more people

Last fall, FNS provided funds to the Human Nutrition Information Service, the USDA agency now administering FNIC, in order to make FNS program cooperators eligible once again to use the center.

This support is part of a major effort by FNS to provide technical assistance to help local program administrators run their programs more cost effectively. The money will pay for staff, postage, and other costs of lending resources to personnel involved in FNS programs. In addition, the money will pay for a Nutrition Education and Training (NET) bibliography, which will summarize the nutrition education materials developed through the NET program.

According to Frank, a major change which accompanied the reinstatement of lending privileges was the inclusion of eligibility for WIC and CSFP staff. "Having access to materials and knowledge available through FNIC will be a great help to WIC staff—they are such a key target," Frank said. "The WIC nutritionists are required to provide nutrition education, and they need a great many resources."

If you want information

How can you get information from FNIC? Everything FNIC has on the bookshelves or cited in the computer is listed in a series of annual catalogs. You look in the catalog to identify the resources you wish to borrow, then write to FNIC. The staff will send the materials you request.

You can also identify resources on specific topics by going to a university library and asking for a computer search of the AGRICOLA data base. Universities usually charge for a computerized search, and you'll want to be sure such a search is appropriate before you ask for one.

"You use a computerized search only when you have a very specific topic, like nutrition education for pregnant teenagers or food service for the handicapped," Frank explained. "If you have a general topic, like nutrition or quantity food preparation, you'll want to look through the FNIC catalog and decide for yourself what you want to borrow."

Both the Audiovisual Resources catalog and the Food and Nutrition Bibliography (which lists audio-visuals, journal articles and books), are available for a fee. Copies are \$18.00 for each from: Oryx Press, 2214 North Central at Encanto, Phoenix, Arizona 85004.

The staff is especially proud of the newest audiovisual catalog, which is a retrospective edition reviewing the past 10 years of films, slide series and other audiovisual aids

Kilowatt-Counting Cooks Save Energy

produced in the field. Generally, the annual catalogs review additions to the collection over the previous year.

"The catalog is relatively expensive unless you're teaching on a regular basis and need to know all the resources. I recommend that users ask their school library to purchase it, or find other ways to use the catalog as a shared resource," Frank said.

Likewise FNIC can be used as a shared resource—a way to preview teaching materials, to find out what is available and test it in the classroom or training lab, before making the decision to buy certain materials for regular use at a school or clinic. Frank said the NET bibliography will indicate how local personnel can buy their own copies of materials.

States invited to contribute

In order to maintain their comprehensive collection, FNIC is always on the lookout for new materials to be contributed. The acquisition process is time-consuming and expensive, according to Frank. It is not always easy to know what is being produced in local areas, but often the material, if shared, can be of use to many more educators.

"It is crucial for people to realize that the object of developing nutrition education materials is to transmit the knowledge to as many people as possible," she said. Many state and local people have developed nutrition education and food service training materials that have not been widely distributed. "We want to encourage people to send in their materials," Frank added.

For more information on FNIC, write to:
Food and Nutrition Information Center
National Agricultural Library Bldg.
Room 304
Beltsville, Maryland 20705
or call: (301) 344-3719
(24-hour answering service.)

article by Jane Mattern



Across the country, seminars are springing up to teach food service people ways to change their workday routines in order to cut energy costs.

The fight to lower energy losses on the job is a tough battle. Stakes are high at worksites such as food service kitchens where large, energy-intensive equipment is used to prepare hundreds or thousands of meals a day. Cooks operating the equipment often do not know how much electricity or gas they use, since they rarely see the utility bills. They are often unaware of many simple ways in which they can help conserve energy.

Of all the energy the food service industry uses about half goes for food preparation and storage. The rest is used for lighting, heating, ventilating, air conditioning, and sanitation.

Of the energy used to prepare food—in ovens, ranges, steamers, and kettles—about 60 percent goes

up in unused heat which must be ventilated out of the kitchen. The high percentage of loss is caused by inefficient conversion of energy sources to cooking heat, poor transfer of heat from cooking appliances to the food, and careless operation of equipment.

Much of the wasted energy can be turned into savings. There are three main ways to cut energy costs in school food programs: training for staff so they waste less; minor purchases of energy-efficient equipment, such as hot water heaters, which pay back their cost in the first few years of operation; and major investments in energy-saving systems, such as heat reclamation devices which can recycle unused heat.

Since few institutions have the capital for investments or the technological expertise to adapt new systems into existing facilities, training food service workers holds the best potential for immediate energy savings to schools.

"We could save millions . . .

"We need to change behavioral patterns of food service people all over the country," says Victor Canevello, a food service systems specialist with the Food and Nutrition Service's Mid-Atlantic Regional Office. "They've always had plenty of gas and electricity. They used it, and they wasted it. We can't afford that any more."

Canevello has been teaching food service workers energy-saving workstyles throughout the mid-Atlantic states for the past 2½ years. He was familiar with energy issues long before the oil shortages of the mid-1970's brought the problems to public attention.

Before coming to FNS, he was eastern division manager for a corporate producer of commercial ovens. There he witnessed the shift in emphasis from a "horsepower" race producing high-powered ovens, to a new competition for the most energy-efficient products. Now Canevello is helping food service workers make the same kind of transition in their outlooks.

"If we set our hearts and minds to reducing the cost of energy in every school lunch kitchen by \$5 a day, we could save millions," Canevello says. How? By turning off lights in storerooms, opening refrigerator doors less often, and turning on cooking equipment only as needed.

Nine times out of ten, Canevello says, he walks into food service kitchens and finds all the cooking burners running hot, with nothing on the stove and no cooks nearby.

Simple changes make a difference

Mary Nix, immediate past president of the American School Food Service Association, agrees that simple changes can make a big difference. Turning equipment on just before food is cooked and served has provided the single greatest savings in energy costs for her school district in Cobb County, Georgia.



"Nationwide, we've been guilty of turning the equipment on and leaving it on. We didn't think it cost much money to leave the equipment on just in case we might need it. But it does," she says.

In his seminars, Canevello stresses the energy conservation basics: know your equipment, run it as short a time and at as low a temperature as you can, and use as much of the heat as possible.

He suggests filling extra space in ovens and kettles with foods that can be cooked and used later. He teaches workers to use the correct size pot for a burner to minimize the heat loss around the sides of the pot. He recommends using timers so workers don't have to guess at cooking times, and so foods do not cook longer than necessary. Also, timers eliminate the need to peek at items in the oven—a practice that allows heat to escape and forces the oven to work harder.

Canevello tells workers to learn the minimum time necessary to preheat ovens, label the equipment for a constant reminder, and set ovens only at the temperature needed—no higher.

Oven thermostats often break down, he says, because workers consistently set the control at a higher

temperature than needed, under the mistaken impression that the unit will heat faster. "I don't care how high you turn the thermostat, it can't heat one bit faster than if set at the temperature you want. When the oven comes on, it's at full force," he says.

When an oven preheats for too long, it cycles on and off, and temperatures build higher than the setting. Eventually the prolonged high heat can damage the thermostat, leading to even greater losses because the equipment can't respond to temperature changes.

Maintenance and "peak loads"

Well-maintained equipment, including thermostats, is a crucial part of any energy conservation plan. Canevello passes out sample maintenance checklists at his sessions. He suggests: weekly checks of hot water systems to find leaks or damaged and worn insulation; semi-annual adjustments of gas burners and lubrication of pumps and pump seals; and yearly cleaning of main hot water mixing valves.

Records of energy consumption are as important as maintenance schedules. With them, current energy requirements can be compared to prior usage to calculate real savings in dollars and kilowatts.

Another variable in the energy formula is something called "peak load." Many utility companies charge institutions a monthly demand charge in addition to the cost of electricity actually used. This is the cost of making enough electricity available to run all the equipment in the kitchen at one time, often measured by monitoring the period of greatest power usage during a day. The school pays an extra charge because the electric company must make enough power available to meet their peak demand.

However, if a school kitchen spreads its energy workload evenly over the day, using equipment sequentially, the institution may be able to save money by having the demand charge reduced.

For example, Canevello explains, a cook might do baking for the following day in the afternoon, when no other equipment is running except the ovens. During the lunch period, she might have one oven chamber hot, the serving line hot, and perhaps a couple of warming cabinets. All other heavy production equipment would be off.

Not until the last tray is served would she turn on the heat for the dishwasher. By the time the dishwasher cycle finished, the ovens could be heated for the afternoon baking.

With planning, the cook has had an even demand for energy during the day, instead of letting energy needs peak with all the equipment going at once. On a day requiring less energy for preparing the meal (as for a cold menu item such as chicken salad platter), cooks can do baking and roasting for another day.

Training in North Carolina

In Robeson County, North Carolina, Jim Emery is teaching about peak loads too. Currently employed by both Robeson County and the Robeson Technical College as a food service instructor, Emery teaches food service sanitation and nutrition courses. This year, after training at a state level seminar in Raleigh, Emery is also teaching county food service workers how to save energy in their kitchens.

So far his energy lessons have been held in three areas of the county. The response has been rewarding.

"We were looking for not more than 100 people to attend, but we really got surprised," Emery says. Altogether, the sessions attracted nearly twice that many food service people.

Emery's strategy involves the same common sense approach Canevello uses. For example, he urges workers to thaw foods in the refrigerator instead of at room temperature. In addition to preventing spoilage, this keeps the compressor from working as hard to remove heat from the icebox.

Emery warns that refrigerator compressors should not be too near stoves, where they could get too hot; or too near walls, where they might not get adequate ventilation. He encourages the use of pressure cookers (high-pressure steamers), since steam is one of the most efficient ways to heat food.

A retired U.S. Army warrant officer, Emery has worked in food service his entire career. "I started out washing pots and cooking, and worked my way up to a food advisor-technician," he says.

As a food service trainer today, Emery teaches on site in the 27 county school cafeterias. He has seen the results of his energy sessions on the job by watching workers put his suggestions into action.

"They are really on top of it," he says. "I start my day with them when they report in for work in the morning. Very seldom do I find more than one range operating at a time. That wasn't the case before the workshop—when they would run two ovens just in case they needed both."

Since the sessions, Emery has noticed workers are more likely to use a small "eye" burner if they are heating one pot, instead of turning on the larger plate burner. "They never even thought about it before," he says.

In his workshop Emery recommended checking the gaskets on refrigerator doors for small air leaks, since just a slight opening requires the unit to work harder.

"Right after the sessions, the number of work requests for replacing gaskets went up tremendously," Emery says. "The county maintenance supervisor approached me and asked, 'What have you been telling those people about refrigerators?'"

Activities in other states

Other states are passing energy tips to local areas as well. The Virginia State Energy Department held sessions a few years ago on

energy use for food service and related fields. Using this as a springboard, Dorothy Panell, school food service director for the Fairfax County Schools, ran local energy conservation workshops.

"I think if you make people aware, you can reduce your energy use by 10 percent immediately," says Panell. "Then with effort you can reduce your use by 20 percent. School-system wide, we have really found this to be true."

In addition to help available from the state level, often an energy audit can be arranged through a local utility company at a small cost. The company will usually provide specific recommendations on the improved use of energy, and an audit can be an effective tool to convince workers that a change is needed.

Food service managers can also run their own energy surveys, typically checking for fuel, steam, or water leaks; poor insulation; excess lighting; equipment running when not needed; and excess exhaust volume, heating, or cooling.

"If we got into a real crunch, I think with just a bit of encouragement we could all serve one cold meal a week. That would save a day's energy consumption each week, a considerable amount," says Dorothy Panell, who tested the idea at her school during a power outage and found it worked fine.

The future of food service includes a variety of commercially successful, energy-efficient heat reclamation and food processing systems that will make energy conservation far easier than it is today.

But the current interest in energy saving is tied directly to the increased cost of energy to schools. The threat is being handled with spirit by food service workers. In the dedicated, behind-the-scenes way in which they carry out school nutrition programs, these workers are training, often voluntarily, to change the habits of many years. They are coming up with new solutions as well.

Energy Saving Tips

Avoid peak loads:

Don't turn on all equipment when coming into the kitchen.

Use high energy equipment sequentially.

Schedule energy-intensive preparation during non-peak periods.

During baking, limit use of other high energy equipment.

Don't fill dishwashing machines with hot water until just before use.

Cut down refrigerator load:

Close refrigerator doors when not in use.

Buy plastic curtains for walk-in refrigerator units.

Don't open the refrigerator for each item—wait to put in a whole rack.

Thaw frozen items in refrigerator instead of at room temperature.

Make sure compressor is in a place it can get adequate ventilation and not near heat.

Monitor maintenance needs:

Make sure door gaskets on refrigerators are tight.

Keep filters over cooking units clean.

Record breakdowns, parts replacement, and maintenance checks.

Monitor preheating and cooking:

Preheat per manufacturer's instructions.

Label stoves and other equipment with necessary minimum time for preheating.

Heat only to required temperature.

Use lids when cooking.

When possible, use pressure cookers or steamers to defrost and cook.

Cook in largest volume possible:

Fill unused space in oven, steamers, and kettles.

Cook ahead for items with good holding qualities if you can use equipment that's already going. You'll avoid another heat-up and use residual heat.

Cook at the lowest temperature possible. In addition to saving energy, this will lower meat shrinkage, increase yield, and give greater nutrient retention and better color in most foods.

Use open-top stoves efficiently:

Flame should just cover bottom of pot, with fire not extending beyond sides of pot. (Diameter of pot should be at least 1 inch greater than burner.)

Pot should be flat bottom to make solid contact with plate or coil.

Use closed-top stoves efficiently:

Heat only the portion of the surface required; turn off section not in use.

Rely on thermostatic control where possible to avoid continuous overheating.

Practice turning off stove first, then remove pot, to use residual heat.

Use oven efficiently:

Open doors only when and for as long as is absolutely necessary—don't peek.

Use a timer to determine how long an item has been cooking.

Start and finish cooking or baking with items requiring lowest temperatures.

Watch for other ways to save:

Check recipe files for foods such as spaghetti sauce that can be formulated ahead without heating.

Turn out lights in storerooms and other areas not in use.

Prepare food and serve immediately instead of preparing and holding.

Consider serving one cold meal a week.

When buying equipment, consider energy efficiency:

Consider equipment with controls such as timers and switches that allow areas of heating or ventilating to be shut off when not needed.

Consider items such as hot water heaters, which represent a moderate investment but can save on energy.

Improve communication:

Develop a reporting system on conservation efforts.

Provide flow of information to employees.

Place reminders at point of operation.

Reinforce habits that yield results.

Provide special training for new employees.

Evaluate results:

Record energy use to determine results.

Compare current month's consumption with same month in a previous year.

Figure dollar savings on current rates and reduced use.

*article by Jane Mattern
photos by Warren Uzzell*

Computers Make Lunch More Manageable



The computer age is no longer the exclusive province of NASA scientists and industrial giants. The future of automation is being realized *now* with applications only dreamed of just a decade ago. As manufacturers race to the day when the household computer takes its place with the color TV, schools are finding a place for computers in their school lunch programs.

Building an automated system

Gaston County, North Carolina, automated its school lunch operations in a 2-year project that began in 1979. Gaston County is the fourth largest school district in North Carolina with 55 schools and 33,000 students. Ansley Scofield, county school food service director, says that the decision to computerize certain records grew out of a need to provide the school board with more timely and better management information.

In switching to an automated system, Gaston County received technical assistance from USDA's Food and Nutrition Service and the North Carolina Department of Public Instruction. The district developed five major components: inventory, pre- and post-costing of menus, free and reduced-price meal applications, participation and revenue reporting, and nutritional analysis:

- 1. Inventory.** The district began with inventory, entering into the computer the inventory records of the district's warehouse and individual schools. Using reports generated by the computer, the staff can now see at a glance what foods are on hand, how much is being used, and what needs to be ordered.

- 2. Pre- and post-costing.** Using costs from the inventory system, the computer can calculate and compare projected and actual costs of both recipes and menus. The computer can pre-cost by recipe, per 100 servings, and by menus, per serv-

The Gaston County school district uses the county government's computer for data processing. County computer operator Mary McDaniel enters into the computer information on free and reduced-priced meals.

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ing. A post-cost analysis, which the computer performs based on a school's actual production records, reveals any cost discrepancies. Any school that has an unusual discrepancy between pre- and post-costs can receive immediate help from the food service supervisors.

3. Participation and revenue reporting. The computer accumulates and compiles daily participation records of each school in the district. It also keeps records of money collected by each school. Food service managers use this information to meet state and federal reporting requirements and to budget and plan.

4. Free and reduced-price meal applications. The computer: scans applications for free and reduced-price meals; determines the children's eligibility; generates letters to parents informing them of the determination; and produces lists, by school and by category, of the approved children. In January 1980, when the income guidelines for free and reduced-price meals were changed, Gaston County re-evaluated and processed 12,000 applications in just 4 hours.

School principals pre-screen the applications before submitting them to the central office. If a principal finds an application with questionable information, he or she attaches a note alerting district office personnel to seek verification.

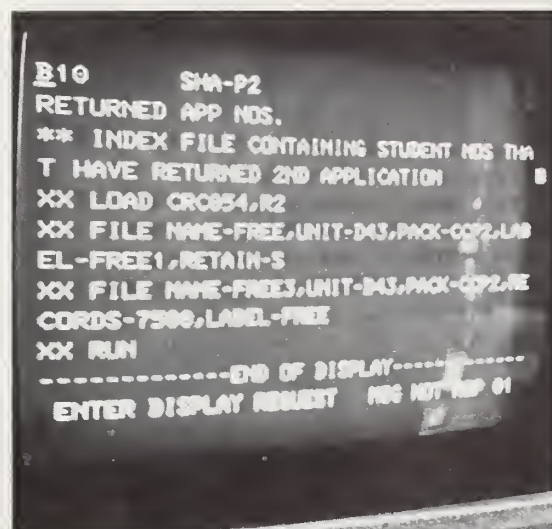
5. Nutrition analysis of meals. The staff also uses the computer to analyze menus, looking at meal pattern components and quantities served.

The major benefit of using a computer, says Scofield, is better use of staff time. Instead of doing paperwork and verifying inventory records, the food service staff can devote themselves to more people-oriented tasks. District employees have more time to monitor program operations and provide technical assistance. School food service managers have more time to train their workers and plan. These people-oriented functions detect and correct costly errors and wasteful practices early.

Dramatic impact on staff time

The impact on staff time was realized as soon as implementation of the computer project began.

"We saved 150 hours of the managers' and their staffs' time for that month alone," Scofield says, adding that another 160 staff hours of the district personnel's time were also saved.



Scofield believes many school districts are reluctant to install computers because of an assumption that employees will lose their jobs. This has not been the case in Gaston County—no jobs have been abolished. But, as a result of employees' having less manual paperwork and more time for management duties, the school district has not needed to hire more staff.

This year, as keeping food costs low has become more important than ever, the computer's menu analysis system has played a major role in keeping the school food service budget within bounds.

Gaston County's school nutrition program uses centralized menus and recipes. Early in December, a routine post-cost analysis of county schools' production records for the previous week showed that one junior high school had a food cost of 64 cents per meal as compared to 40 cents per meal for other junior highs serving the same menus.

A district staff member went to the school, observed the food service operation and determined what practices were causing the excessive costs. After technical assistance was provided, the junior high school's food costs were quickly lowered. Without the computer, it would have been January before the high costs would have been found and corrected.

"We can target a school with excessive costs immediately," says Scofield. "Also, because we update our pre-costing data as often as daily, we can react to price changes instantly. If a price changes drastically, we can delete an item from a menu that same day."

Gaston County uses every report their computer produces. Inventory summary reports, for example, serve a number of purposes. If one school's supply of a food item is exhausted, the report shows what school has the food so that a transfer can be made. In addition, district employees check the summary report to find out if a USDA-donated food is available in the commodity warehouse before they order that particular food item commercially.

Inventory summaries also aid in menu planning. Knowing what foods are available in large supplies in school storerooms or in the commodity warehouse allows district staff members to include the surplus items in menus before they spoil or lose some of their quality.

Information being shared

Currently the software programs of Gaston County's computer are being translated for use in micro-computers, the smallest of the three major types of computers used today. Then the software package will be made available to school districts throughout North Carolina. In the Southwest, the Food and Nutrition Service regional office in Dallas has already disseminated information about Gaston County's computer project to state agencies as a part of its initiative to aid small to medium-sized school districts in establishing computer systems for food service

operations. Two Texas school districts—the Arlington and Irving Independent School Districts—have since installed similar computer systems, modified to meet their needs.

Arlington and Irving are both large districts in the suburbs of Dallas. Arlington uses a central warehouse and school-operated trucks to deliver food and supplies to 42 schools serving 33,300 children. Irving has 25 schools that prepare meals for 21,000 children. Each of the 25 schools has its own warehouse.

"One of our most pressing needs was to simplify the paperwork in our inventory delivery system," says Arlington food service director Barbara Clark. "This year approximately 2 million dollars' worth of merchandise will pass through our central warehouse."

Until they computerized their inventory at the beginning of this school year, two people worked full time processing purchase orders, receipts, managers' orders, and other forms. Calculating the cost of deliveries to schools consumed a major portion of their time.

Another problem with the manual system was that it took too long to provide information, making it difficult for the staff to anticipate what to buy. "We often had an excess of some items in inventory, while being short on others," Clark explains.

Clark saw automatic data processing as the solution and she made an all-out effort to convince school district administrators to make computerizing food service records a priority.

People from the Texas state education agency and the Food and Nutrition Service's Southwest regional office provided a model for in-depth review, explored various approaches and possibilities, and identified other school districts with computer-assisted inventory programs.

The district did an in-depth review of the Gaston County project and also looked at inventory systems in San Antonio and Austin, Texas, and Tulsa, Oklahoma. They also contacted a number of other school districts by phone and reviewed professional and commercial literature.

Since none of the systems could be used on the district's computer, they decided to write programs from scratch, basing them on the existing manual inventory system. "We felt our inventory delivery system was good overall," says Clark.

Writing the basic programs required 6 weeks of close work between the data processing and food service staffs. During the same period, food service personnel received training on how to put data into the computer terminals installed

in the director's office and in the warehouse. The system was ready to roll at the beginning of the school year.

In addition to inventory, the district also developed a program for processing free and reduced-price meal applications. Current plans call for adding more programs as time and money allow.

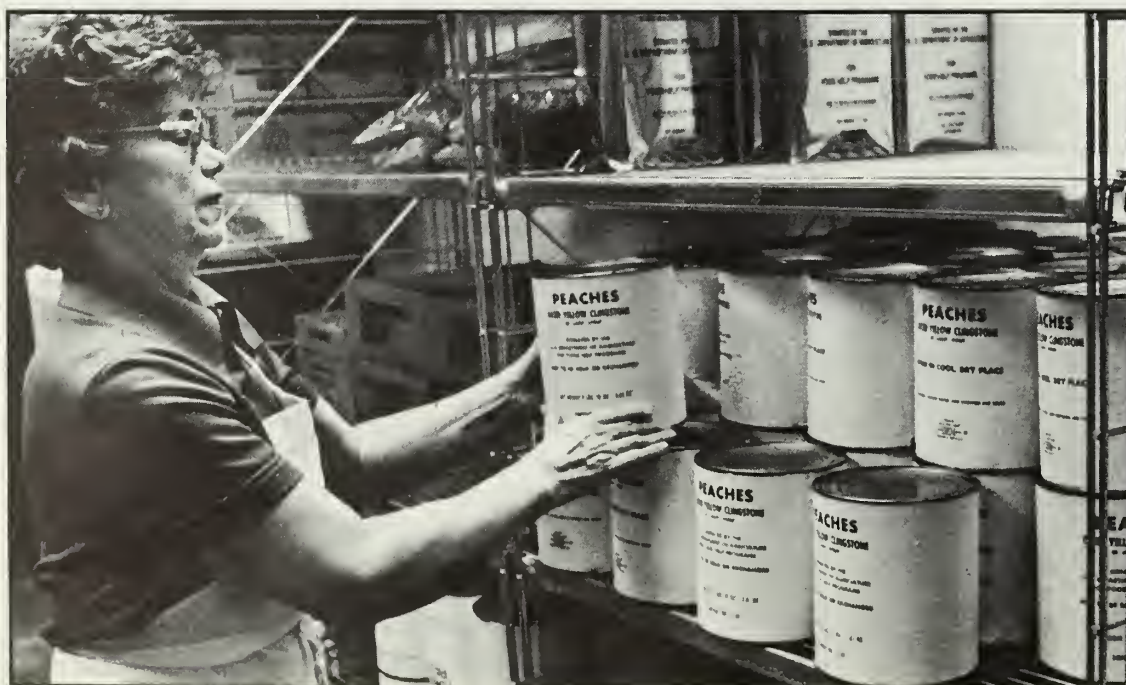
Computerizing step-by-step

In Irving, as in Arlington, food service managers are computerizing their operations step by step. They are now using computers to handle inventory, track market orders and vendor deliveries, do billing and process orders, and keep track of participation and revenue.

With their old manual system, the central office used to get 25 detailed handwritten reports from the schools each week. The staff would check the math and transpose the figures into a central notebook, which had 25 sets of columns and balances. With the computer, all that is gone. Reports that used to take days, are now done in hours.

Melbagene Ryan, Irving's food service director, says an added benefit is that school district personnel from other departments now have a more accurate view of food service. "School administrators often take for granted areas that run on their own steam," Ryan explains. "They neglect to adequately recognize them and make them part of the total school operation."

"With the food service inventory, ordering and purchasing, bill processing, and financial management operations being computerized, food service has been given a priority second only to grade reporting. The detailed record-keeping and program accounting we have done is openly discussed and praised by the data processing staff."



Left: At the Lowell Elementary School in Lowell, North Carolina, a member of the food service staff checks inventory. Inventory records were the first to be computerized in Gaston County. **Opposite page:** Computer programmer Sharon Daniel looks over some of the reports the computer has generated.

Bruce Vernon, the programmer who worked with Ryan, is pleased with the new system. "Although we've just begun the total package we've envisioned for Irving, we're excited about the tangible results we're going to have in this first year." Future plans include doing nutrition analysis of recipes and menus, figuring meals per staff hour, and installing cash registers that will automatically transfer information to the computer.

Some tips for other districts

Ansley Scofield, Barbara Clark and Melbagene Ryan all agree that purchasing or installing a computer system for the first time can be an awesome task. They offer the following advice for other school districts interested in automating their school food service operations:

1. Contact your state office for information about other computer systems and the availability of technical assistance from your FNS regional office.
2. Survey other existing systems before you decide what you want or need. Weigh the advantages and disadvantages of each. Don't make a hasty decision.
3. Don't radically change your method of operation to use a "canned" system. Develop your own system if you need to, choosing features of other systems that will work for you.
4. During the entire process of planning and implementation, keep the lines of communication open with your data processing staff. Close cooperation and good communication are essential to the development of an effective system.
5. Computerize first the information that is high-volume and labor-intensive, such as inventory records, or information that is needed on a timely basis.
6. Don't try to make a quick and total transition from manual system to an automated system. Take one step at a time and work out the problems at each phase of implementation before proceeding further.

7. Don't have a system designed that will produce a multitude of print-outs you won't use. Use everything the computer generates.

Costs and options vary

In today's technological terms, computers are classified into three major categories according to power, versatility, and cost.



The most sophisticated type is the large main-frame computer often used in business, government, and large school systems. It can store vast amounts of information and perform complicated calculations. This type system requires highly specialized technicians for its operations.

The mini-computer, contrary to its name, is a medium-sized machine that is less expensive, but functions similar to a main-frame computer.

The micro-computer is the smallest. It can provide the necessary computing capability at an affordable price for small school districts that do not have access to the larger computers. Micro-computers are easy to program, operate, and maintain.

All three types can be used in managing school food service operations.

The cost of automating school lunch operations varies greatly, depending on a school district's access to a computer. Gaston County schools did not have to purchase a computer, since they are able to share in the services of the county government's computer. In Florida, one large and several small school districts have formed a consortium to share costs of installing and using a computer. Schools may also cut costs by sharing with commercial establishments, such as banks.

If a district does start from scratch, purchasing a micro-computer is probably the best solution. According to Bill Ray, audit supervisor for North Carolina's Division of Child Nutrition, it should cost no more than \$6,000 for a micro-computer to run an automated food service program like Gaston County's. The actual cost, of course, will depend on the name brand of the computer and the area in which it is bought.

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